Valorization of bio-based alcohols using catalytic technology

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STELLINGEN

Behorende bij het proefschrift

Valorization of Bio-based Chemicals using Catalytic Technology

door Angela Justina Kumalaputri

1. DMF can be obtained by HMF hydrogenation with a Cu-based catalyst at relatively mild conditions (220 °C, 50 bar) in a non-toxic solvent (this thesis, Chapter 2 and 3).
2. The observation by Nan Yao *et al*. that the use of polyethylene glycol (PEG) during nanoparticle synthesis leads to smaller Ni nanoparticles is highly unlikely (Nan Yao *et al*., J. Mater. Chem. 21 (2011) 17403-17412).
3. The observation by Onwudili et al. that the use of Ru-based catalysts for the gasification of biomass in supercritical water leads to gases enriched in hydrogen instead of methane is highly surprising (J. A. Onwudili *et al*., Applied Catalysis B: Environmental 132-133 (2013) 70-79).
4. The conclusion by Pei *et al*. that gasification of biomass at lower temperatures favors hydrogen formation instead of methane is highly doubtful (A. Pei *et al*., Front. Energy Power Eng. China (2009) 456-464).
5. The terms 'selectivity' and 'yield' are often used incorrectly (G. C. A. Luijkx *et al*., Recueil des Travaux des Pays-Bas 110 (1991) 343-344 and G. C. A. Luijkx, *et al.* , Carbohyd. Res. 242 (1993) 131-139).
6. In contrast to reports by Modell et al., biomass gasification in supercritical water will always lead to solids formation (M. Modell *et al*., Gasification process, US Patent 4113446, 1978).
7. Peaks in HPLC, GC or NMR spectra are just like major and minor melodies in music. When joined together they become a perfect harmony.
8. "I put my heart and my soul into my work, and I have lost my mind in the process" (Vincent van Gogh).
9. The years to finish a PhD shows a linear relation with the number of lost teeth: number of lost teeth = PhD_{time} +1.
10. "All things work together for the good" (Rome 8:28, KJV version).